CLAIMS

1. A tubular conduit comprising: a tubular portion made from a flexible material; an axially extending external helical formation located around the outside of the tubular portion for supporting the tubular portion; and an axially extending internal helical protrusion located around the inside of the tubular portion for imparting a helical flow to a fluid passing through the tubular portion.

2. A tubular conduit according to claim 1 for use as a graft, preferably a vascular graft.

3. A tubular conduit according to claim 1 or 2 wherein the internal helical protrusion comprises a section of the tubular portion deformed by an axially extending deformation helix.

4. A tubular conduit according to claim 3 wherein the axially extending deformation helix is made from polyurethane.

5. A tubular conduit according to claim 3 or 4 wherein the axially extending deformation helix is sintered to the flexible material of the tubular portion.

6. A tubular conduit according to any one of the preceding claims wherein the external helical formation has a different helix angle from the internal helical protrusion.

7. A tubular conduit according to claim 6 wherein the helix angle of the external helical formation is greater than the helix angle of the internal helical protrusion.

8. A tubular conduit according to any one of the preceding claims wherein the helix angle of the internal helical protrusion is between 8° and 20°.

9. A tubular conduit according to any one of the preceding claims wherein the helix angle of the external helical formation is greater than 50° and preferably between 65° and 80°.

10. A tubular conduit according to any one of the preceding claims wherein the tubular portion is made from ePTFE.

11. A tubular conduit according to any one of the preceding claims wherein the external helical formation is made from polyurethane.

12. A tubular conduit according to any one of the preceding claims wherein the inside of the tubular portion has a carbon coating.

13. A tubular conduit according to any one of the preceding claims wherein the external helical formation is sintered to the flexible material of the tubular portion.

14. A method of making a tubular conduit comprising the steps of:

(a) providing a tubular portion made from a flexible material;

(b) flowing a moulding liquid in an axially extending, helical form around the exterior of the tubular portion; and

(c) solidifying the moulding liquid.

15. A method according to claim 14 wherein step (b) comprises the step of flowing a moulding liquid in two axially extending helical forms around the exterior of the tubular portion.

16. A method according to claim 15 wherein the two helical forms each has a different helix angle.

17. A method according to any one of claims 14 to 16 wherein step (b) comprises: (i) deforming the tubular portion so as to provide an internal helical

protrusion on the inside of the tubular portion and a corresponding external helical groove; and (ii) flowing the moulding liquid into the external helical groove to form an axially extending helical form.

18. A method according to claim 17 as dependent on claim 16 wherein the helix angle of the moulding liquid flowed into the external helical groove is less than the helix angle of the other axially extending helical form.

19. A method according to claim 17 or 18 wherein the helix angle of the moulding liquid flowed into the external helical groove is between 8° and 20°.

20. A method according to any one of claims 14 to 19 wherein step (b) comprises locating the tubular portion over a mandrel; and encasing the tubular portion within a mould such that the tubular portion is sandwiched between the mandrel and the mould.

21. A method according to claim 20 as dependent from claim 17, 18 or 19 wherein the mandrel has an axially extending helical channel on its surface and wherein step (i) further comprises the step of introducing the moulding liquid between the tubular portion and the mould such that the moulding liquid deforms the tubular portion by pressing the tubular portion into the helical channel on the mandrel to provide the internal helical protrusion.

22. A method according to claim 21 further comprising, between the steps of locating of the tubular portion over the mandrel and encasing the tubular portion within the mould, the step of: pushing the tubular portion at least partially into the helical channel on the mandrel.

23. A method according to claim 21 or 22 wherein the step of introducing the moulding liquid comprises injecting the moulding liquid into the mould above the helical channel in the mandrel.

24. A method according to any one of claims 20 to 23 wherein the mould has an axially extending helical channel about its inside surface and wherein step (b) further comprises the step of introducing the moulding liquid between the tubular portion and the mould such that the moulding liquid flows into the helical channel in the mould.

25. A method according to claim 24 wherein the helix angle of the helical channel in the mould is greater than 50°, and preferably is between 65° and 80°.

26. A method according to any one of claims 14 to 25 further comprising, between steps (b) and (c), the step of sintering the moulding liquid onto the flexible material of the tubular portion.

27. A method according to any one of claims 14 to 26 wherein step (b) is carried out between 600 and 800 kPa and between 170 and 210°C, preferably at 689 kPa and 190°C.

28. A method according to any one of claims 14 to 27 further comprising the step of coating the inner surface of the tubular portion with carbon.

29. A method according to any one of claims 14 to 28 wherein the moulding liquid is polyurethane.

30. A method according to any one of claims 14 to 29 wherein the flexible material is ePTFE.

31. A mould for providing a helical formation onto a tubular conduit comprising:

a mandrel on which the tubular conduit is locatable; and

a moulding block having a bore for receiving the mandrel with the tubular conduit located thereon.

32. A mould according to claim 31 wherein the mandrel has an axially extending helical channel on its inner surface.

33. A mould according to claim 31 or 32 wherein the bore has an axially extending helical channel on its inner surface.

34. A mould according to claim 33 as dependent on claim 32 wherein the helix angle of the helical channel on the bore is different from the helix angle of the helical channel on the mandrel.

35. A mould according to claim 34 wherein the helix angle of the helical channel on the bore is greater than the helix angle of the helical channel on the mandrel.

36. A mould according to any one of claims 32, 34 or 35 or claim 33 as dependent on claim 32 wherein the helix angle of the helical channel on the mandrel is between 8° and 20°.

37. A mould according to any one of claims 33 to 35 or claim 36 as dependent on claim 33 wherein the helix angle of the helical channel on the bore is greater than 50° and preferably between 65° and 80°.

38. A method according to any one of claims 14 to 30 or a moulding according to any one of clams 31 to 37, wherein the tubular conduit is a vascular graft.

39. A vascular graft comprising: a tubular portion made from a flexible material; and an axially extending external helical formation located around the outside of the tubular portion for supporting the tubular portion.